

Human PKM2 / OIP3 Protein (His Tag)

Catalog Number: 11430-H07E



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

CTHBP; HEL-S-30; OIP3; PK3; PKM2; TCB; THBP1

Protein Construction:

A DNA sequence encoding the human PKM2 isoform M2 (P14618-1) (Ser 2-Pro 531) was expressed, with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Bio Activity:

Kinase activity untested

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human PKM2 consisting of 541 amino acids and migrates as an approximately 59 kDa band in SDS-PAGE under reducing conditions as predicted.

Formulation:

Supplied as sterile PBS, pH 7.0, 10% glycerol

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

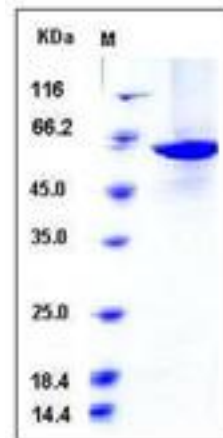
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Pyruvate kinase isozymes M2 also known as pyruvate kinase muscle isozyme 2 (PKM2), pyruvate kinase type K, cytosolic thyroid hormone-binding protein (CTHBP), thyroid hormone-binding protein 1 (THBP1), or opa-interacting protein 3 (OIP3), is an isoenzyme of the glycolytic enzyme pyruvate kinase. Pyruvate kinase isozymes M2 / PKM2 is a protein involved in glycolysis. The encoded protein is a pyruvate kinase that catalyzes the transfer of a phosphoryl group from phosphoenolpyruvate to ADP, generating ATP and pyruvate. PKM2 has been shown to interact with thyroid hormone and may mediate cellular metabolic effects induced by thyroid hormones. PKM2 has been found to bind Opa protein, a bacterial outer membrane protein involved in gonococcal adherence to and invasion of human cells, suggesting a role of this protein in bacterial pathogenesis. Several alternatively spliced transcript variants encoding a few distinct isoforms have been reported. PKM2 functions as a glycolytic enzyme that catalyzes the transfer of a phosphoryl group from phosphoenolpyruvate (PEP) to ADP, generating ATP. PKM2 may stimulate POU5F1-mediated transcriptional activation. This protein plays a general role in caspase independent cell death of tumor cells. The ratio between the highly active tetrameric form and nearly inactive dimeric form determines whether glucose carbons are channeled to biosynthetic processes or used for glycolytic ATP production. The transition between the 2 forms of PKM2 contributes to the control of glycolysis and is important for tumor cell proliferation and survival.

References

1. Bluemlein K, *et al.* (2011) No evidence for a shift in pyruvate kinase PKM1 to PKM2 expression during tumorigenesis. *Oncotarget*. 2 (5): 393-400.
2. Gupta V, *et al.* (2010) Dominant Negative Mutations Affect Oligomerization of Human Pyruvate Kinase M2 Isozyme and Promote Cellular Growth and Polyploidy. *J Biol Chem*. 285 (22): 16864-73.
3. Eigenbrodt E, *et al.* (1992) Double role for pyruvate kinase type M2 in the expansion of phosphometabolite pools found in tumor cells. *Crit Rev Oncog*. 3 (1): 91-115.

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